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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/716,934

11/20/2003

Jose Tamez-Pena

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EXAMINER

CWERN, JONATHAN

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

03/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/716,934	Applicant(s) TAMEZ-PENA ET AL.	
	Examiner Jonathan G. Cwern	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings were received on 12/24/08. These drawings are not acceptable. Each page of the replacement drawings must be marked "Replacement Sheet".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelletier et al. (US 6560476) in view of Lang et al. (US 2002/0177770).

Pelletier et al. show a method of using an MR system to tracking the progression of diseases affecting cartilage. Images of a patient's knee are acquired, with the data

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optimized to detect bone and cartilage. The images are acquired over a period of time, and are compared to detect differences between the images, to track disease progression in cartilage. These can include differences in cartilage thickness, cartilage volume, and the characteristics of cartilage material. The image data contains the load-bearing surfaces of the joint. The image can be segmented automatically to determine different regions of the joint (column 2, line 25-column 3, line 40). Both the bone surface and the cartilage surface are segmented. The user assists the process by manually delineating the bone-cartilage interface. An active contour algorithm is applied to the manual contours to more closely define the outline of the bone-cartilage interface (column 12, lines 42-67). Note that this can be considered as “relaxing boundaries of the bone features”. The cartilage is then represented by two maps, a volume image map and a thickness image map. Different structures with the joint can be quantified separately. Specific regions of the cartilage volume and thickness can be separated and analyzed to aid the physician in determining a more precise understanding of the disease progression (column 14, lines 13-43). This will therefore include load-bearing and non-load bearing structures, although those words are not explicitly stated.

Lang et al. disclose a method of assessing the condition of a joint and assessing cartilage loss. Lang et al. teach the importance of identifying the load regions of the joint to aid in planning a treatment procedure ([0466]). Lang et al. further teach constructing a model of the joint, identifying load-bearing regions, and mapping them onto the model ([0332], [0441], [0451], [0457], [0488]). Lang et al. also describe numerous computer processing techniques for analyzing, registering, and mapping, the

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data to the model, and it would be obvious to use any known computer processing techniques for analyzing, registering, mapping, etc. as they are all suitable equivalents.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have divided the cartilage into load-bearing and non-load-bearing regions in the method of Pelletier et al. Pelletier et al. show segmentation, and that different structures in the joint can be quantified separately. By dividing the cartilage into specific regions and analyzing those regions, the physician gains a more precise understanding of disease progression. The use of a model further aids the physician and provides an easy visual aid. And while Pelletier et al. do not explicitly state that the specific regions can be load-bearing and non-load-bearing regions, Lang et al. teach the importance of identifying those load-bearing regions to evaluate disease progression and plan for treatment.

Response to Arguments

Applicant's arguments filed 12/24/08 have been fully considered but they are not persuasive.

In response to applicant's arguments that the newly added limitations are not taught by either Pelletier et al. or Lang et al., examiner respectfully disagrees. The newly added limitations in the claims are taught by Lang et al. as illustrated in the rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Cwern whose telephone number is (571)270-1560. The examiner can normally be reached on Monday through Friday 9:30AM - 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan G Cwern/
Examiner, Art Unit 3737

/BRIAN CASLER/
Supervisory Patent Examiner, Art
Unit 3737